CLAIM(S)

What Is Claimed Is:

1. A network-infrastructure cache for providing proxy services to a plurality of client workstations concurrently requesting access to data stored on a server; the client workstations and the server being interconnected by a network via which client workstations may transmit network-file-services-protocol requests to the server, and via which the server transmits network-file-services-protocol responses to requesting client workstations; the network-infrastructure cache comprising:

a network interface that connects to the network for providing a hardware and software interface to the network through which the network-infrastructure cache receives and responds to network-file-services-protocol requests from client workstations for data for which the network-infrastructure cache provides proxy services;

a file-request service-module for receiving via said network interface network-file-services-protocol requests transmitted by the client workstations for data for which the network-infrastructure cache provides proxy services, and for transmitting to client workstations via said network interface network-file-services-protocol responses to the network-file-services-protocol requests;

a cache from which said file-request service-module retrieves data that is included in the network-file-services-protocol

responses that said file-request service-module transmits to the client workstations; and

a file-request generation-module for transmitting to the server via said network interface network-file-services-protocol requests for data specified in network-file-services-protocol requests received by said file-request service-module that is missing from said cache, for receiving from the server network-file-services-protocol responses that include data missing from said cache, and for transmitting such missing data to said cache for storage therein.

2. The network-infrastructure cache of claim 1 wherein client workstations transmit network-file-services-protocol requests using Hyper-Text Transfer Protocol ("HTTP").

3. The network-infrastructure cache of claim 1 wherein the server transmits network-file-services-protocol responses using HTTP.

4. The network-infrastructure cache of claim 1 wherein client workstations transmit network-file-services-protocol requests using Server Message Block ("SMB").

5. The network-infrastructure cache of claim 1 wherein the server transmits network-file-services-protocol responses using SMB.

6. The network-infrastructure cache of claim 1 wherein client workstations transmit network-file-services-protocol requests using Network File System ("NFS®").

7. The network-infrastructure cache of claim 1 wherein the server transmits network-file-services-protocol responses using NFS.

8. The network-infrastructure cache of claim 1 wherein client workstations transmit network-file-services-protocol requests using Netware Core Protocol ("NCP").

9. The network-infrastructure cache of claim 1 wherein the server transmits network-file-services-protocol responses using NCP.

10. The network-infrastructure cache of claim 1 further comprising a filter, said filter redirecting to said file-request service-module network-file-services-protocol requests received by said network interface that are addressed by client workstations to

the server, and said filter also redirecting to said file-request generation-module network-file-services-protocol responses received by said network interface that are addressed by the server to client workstations.

11. The network-infrastructure cache of claim 1 wherein said network interface is included in a network router that interconnects two networks.

12. The network-infrastructure cache of claim 1 wherein said network interface is included in a network hub that interconnects two network connections of the network.

13. The network-infrastructure cache of claim 1 wherein network-file-services-protocol requests received by said file-request service-module are addressed to the network-infrastructure cache by client workstations, and network-file-services-protocol responses received by said file-request generation-module are addressed to the network-infrastructure cache by the server.

14. The network-infrastructure cache of claim 1 wherein said cache includes a memory cache.

15. The network-infrastructure cache of claim 14 wherein said cache includes a disk cache.

16. The network-infrastructure cache of claim 1 further comprising:

a Performance-Monitor Module for keeping various statistics that record performance of the network-infrastructure cache; and

an Administration-and-Control Module for accepting and responding to communications specifying an operating configuration for the network-infrastructure cache.

17. The network-infrastructure cache of claim 16 further comprising:

a Name-Declaration Module for informing a network name service that the network-infrastructure cache is to provide proxy services for the server.

18. The network-infrastructure cache of claim 1 further comprising:

a Traffic-Monitor module for logging all network-file-services-protocol requests and responses occurring on the network;

a Traffic-Analyzer Module for associating logged network-file-services-protocol responses with logged requests, for determining an average response time between associated network-file-services-

protocol requests and network-file-services-protocol responses, and for determining if the server needs assistance; and

a Name-Declaration Module for informing a network name service that the network-infrastructure cache is to provide proxy services for the server that needs assistance.

19. A protocol-bridging network-infrastructure cache for providing proxy services to a plurality of client workstations concurrently requesting access to data stored on a server; the client workstations and the server being interconnected by a network via which client workstations may transmit network-file-services-protocol requests to the server, and via which the server transmits network-file-services-protocol responses to requesting client workstations; the network-infrastructure cache comprising:

a. a network interface that connects to the network for providing a hardware and software interface to the network through which the network-infrastructure cache receives and responds to network-file-services-protocol requests from client workstations for data for which the network-infrastructure cache provides proxy services;

b. a file-request service-module for:

i. receiving via said network interface network-file-services-protocol requests that are transmitted by the client workstations for data for which the

network-infrastructure cache provides proxy services, and that are expressed in a first network-file-services protocol; and

ii. transmitting to client workstations via said network interface in the first network-file-services protocol network-file-services-protocol responses to the network-file-services-protocol requests;

c. a cache from which said file-request service-module retrieves data that is included in the network-file-services-protocol responses that said file-request service-module transmits to the client workstations;

d. a file-request generation-module for:

i. transmitting to the server via said network interface network-file-services-protocol requests expressed in the first network-file-services protocol for data specified in network-file-services-protocol requests received by said file-request service-module that is missing from said cache;

ii. receiving in the first network-file-services protocol network-file-services-protocol responses that include data missing from said cache, and

iii. transmitting such missing data to said cache for storage therein; and

e. protocol-translation means which:

i. upon detecting that the server to which network-file-services-protocol requests generated by said file-request generation-module are addressed does not respond to network-file-services-protocol requests expressed in the first network-file-services protocol, translates network-file-services-protocol requests expressed in the first network-file-services protocol into network-file-services-protocol requests expressed in a second network-file-services protocol that differs from the first network-file-services protocol and to which the server responds; and

ii. upon detecting that network-file-services-protocol responses received from the server directed to the file-request generation-module are expressed in the second network-file-services protocol, translates the network-file-services-protocol responses into network-file-services-protocol responses expressed in the first network-file-services protocol.